

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER No. 00-032

ADOPTION OF FINAL SITE CLEANUP REQUIREMENTS AND RESCISSION OF ORDER
NO. 96-101 FOR:

CHEMCENTRAL CORPORATION

for the property located at

31702 HAYMAN STREET
HAYWARD
ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Board), finds that:

1. **Site Location:** The property is located at 31702 Hayman Street in Hayward (the site). The site is located in the south Hayward Industrial Park. The site occupies an area of approximately 5 acres. Approximately two-thirds of the site is paved with concrete or covered with office and storage buildings. The southern third of the site, as well as the former UST area, is unpaved. The site is approximately 6 miles from the east shore of the San Francisco Bay. The nearest surface water body is the Dry Creek, located approximately 5,000 feet southeast from the site. The surrounding land is developed for commercial and industrial occupancy. The local topography is generally flat to gently sloping.
2. **Site History:** The site operated as a chemical storage, repackaging, and distribution facility from 1965 to present. Prior to 1965, the site was used for agricultural purposes. Originally the site contained 39 underground storage tanks (UST), 37 of which were used to store industrial grade solvents and other chemical liquids. Two of the USTs that contained gasoline and diesel were removed in August 1995. In November and December 1998, a total of 37 USTs that remained in the tank farm area were removed. The tanks ranged in size from 4,000 to 20,000 gallons. The documentation on the USTs closure is contained in the March 5, 1999, "UST Closure Report" prepared by Earth Technology, Inc. Chemcentral Corporation (Chemcentral) is the current property owner.

In 1989, Chemcentral investigated the possibility of soil and groundwater pollution due to leakage and/or spillage of chemicals stored at the site. Chemcentral reported that soil and groundwater were polluted by a variety of VOCs (e.g. toluene, tetrachloroethene

(PCE), trichloroethene (TCE), total xylene and 1,1,1-trichloroethane (1,1,1 TCA)). Major features at the site include the storage building, the shipping dock, the former drum filling area, the former UST area and the office building.

3. **Named Discharger:** Chemcentral Corporation is named as a discharger because of substantial evidence that it released pollutants to soil and groundwater at the site (including its storage and distribution of chlorinated solvents at the site and the presence of these same pollutants in soil and groundwater in the vicinity of the onsite use) and because it owned the property during the time of the activity that resulted in the discharge.

If additional information is submitted indicating that other parties caused or permitted any waste to be discharged on the site where it entered or could have entered waters of the state, the Board will consider adding those parties' names to this order.

4. **Regulatory Status:** The site was subject to Site Cleanup Requirements (Order No.96-101) adopted July 17, 1996.
5. **Site Hydrogeology:** The site is located within the Dry Creek Cone groundwater basin. Three alluvial sequences intersect near the location of the site. The alluvial sequences are the Dry Creek, Niles and the San Lorenzo Cone deposits. These deposits are fine-grained and predominantly consist of clay and silty clays with minor sand lenses.

Two water-bearing zones have been identified during remedial investigation at the site. These are the upper unconfined and the lower semi-confined shallow water-bearing zones. The upper unconfined shallow water-bearing zone occurs at about 15 to 35 feet below ground surface (bgs). The lower semi-confined shallow water-bearing zone occurs at approximately 50 to 70 feet bgs. An upward hydraulic head has been identified between the upper and the lower shallow water bearing zones, but the upward vertical gradient could potentially reverse direction in dry years or in response to curtailment of recharge by ACWD or curtailment of shallow zone pumping at the site. Groundwater levels in the shallow zone below the site generally range between 16 and 25 feet bgs. The groundwater gradient in the upper shallow zone is predominantly in a westerly direction toward the San Francisco Bay and is approximately 0.5 foot per 100 feet. The groundwater gradient in the lower shallow zone is predominantly in a southwesterly direction and is approximately 0.3 foot per 100 feet.

6. **Remedial Investigation:** Remedial investigation began in 1989. The chemical analysis of samples collected revealed the presence of volatile organic compounds (VOC) in soils and groundwater. The concentrations of VOC measured from the tank pit bottom and the backfilled soil during UST removal activities are reported in the "UST Closure Report" dated March 5, 1999.

- a. **Soil** - VOCs detected in soil borings during sampling events for the tank removal activities in November and December 1998, are Benzene, Toluene, Ethylbenzene and total Xylenes, Tetrachloroethene (PCE), Chlorobenzene, cis-1,2-Dichloroethene (cis-1,2-DCE), 1,1-Dichloroethane (1,1-DCA), 1,1,1-Trichloroethane (1,1,1-TCA) and Trichloroethene (TCE). Specific concentrations of these chemical constituents varied widely (see table below).

Constituents	Concentration levels in excavated soil samples (mg/kg)	Concentration levels in backfilled soil samples (mg/kg)
Benzene, Toluene, Ethylbenzene and total Xylenes	0.35 to 2,570	3.67 to 132
PCE	0.008 to 160	0.43 to 6.6
TCE	0.006 to 22	0.13 to 1.4
1,1,1-TCA	0.005 to 640	0.13 to 64

- b. **Groundwater** - Chemcentral conducted groundwater investigations in the upper and lower shallow water bearing zones to characterize the site and define the contaminants and their impact to these water-bearing zones beneath the site and surrounding area. Groundwater monitoring data is currently obtained from 16 on-site monitoring wells and 9 off-site monitoring wells, and four of these wells are extraction wells. Chemical analysis of groundwater samples from the upper shallow zone indicated presence of VOCs. Chemical analysis of groundwater samples from the lower shallow zone indicated that low to trace levels of VOCs have generally been detected near or below their respective MCLs. The contaminant levels in upper shallow groundwater are substantially above drinking water standard. Only insignificant VOC concentrations (below MCL to non detect) have generally been measured in the lower shallow zone.

The groundwater plume is delineated. No additional groundwater investigation needed, if VOC concentrations at the lower shallow water-bearing zone remain or decline. Vertical conduit study results have indicated no vertical preferential

pathway between the shallow and deeper aquifers at the site. The Whipple well that was installed in the deeper aquifer and is located approximately 2/3 mile away has not been impacted. We have no information to determine whether the US Pipe well installed in the deeper aquifer and located approximately 1/3 mile away has been impacted. The current use of the US Pipe well is industrial purposes.

The following maximum chemical contaminant levels were detected in upper and lower shallow groundwater zone:

Constituents	Dates (yr)	Maximum levels detected in upper shallow zone (mg/L)	Maximum levels detected in lower shallow zone (mg/L)
Benzene	1993	1	0.008
Toluene	1996	110	0.49 (1993)
Ethylbenzene	1997	8	Below MCL
Total Xylenes	1997	57.5	Below MCL
Tetrachloroethene	1993	6.6	0.053
Trichloroethene	1994	10	0.054 (1993)
1,1,1-Trichloroethane	1994	20	Below MCL
1,1-Dichloroethane	1996	4.4	0.024 (1997)
1,1-Dichloroethene	1998	1.7	0.013 (1997)
Chlorobenzene	1991	0.067	Below MCL
Chloroethane	1993	1.2	Non-detect
cis-1,2-Dichloroethene	1996	23	0.088 (1997)

Historic chemical data has shown a reduction in contaminant concentrations.

7. **Adjacent Sites:** There are no nearby sites whose contamination or cleanup activities affect the site. Groundwater plume from Chemcentral has migrated to off-site properties.
8. **Interim Remedial Measures:** Chemcentral has implemented soil and groundwater interim remedial measures (IRMs) that included soil excavation, groundwater pump and treat, and soil vapor extraction (SVE) system at the site.

a. **Interim Soil Remedial Measures**

Chemcentral began remedial activity in 1996. The main source of pollution is the former underground storage tank (UST) area. Chemcentral operated an SVE system, and implemented soil excavation in the UST area in November and December 1998. The former interim SVE system removed an estimated 1,100 pounds of BTEX compounds and 1,400 pounds of chlorinated hydrocarbons from shallow soils in the former UST area. Approximately 5,000 cubic yards of soil were excavated at the site, however limited amount were disposed off-site, the rest were backfilled and are being targeted for treatment.

Representative soil concentrations of some chemicals are not protective of groundwater at the site. Representative concentrations of a few chemicals in groundwater exceed the inhalation pathway target levels under current and potential future conditions. Additional soil remediation will be needed to effectively reduce contaminant concentrations to levels below regulatory standards.

b. **Interim Groundwater Remedial Measures**

Chemcentral began IRMs for the onsite and off-site groundwater in 1996 and 1997 respectively, with the installation of a pump and treat system. Monitoring data is currently obtained from 21 monitoring wells and 4 extraction wells. The pump and treat system has been effective in reducing concentrations of VOCs. The interim groundwater remediation system has removed an estimated 4,500 pounds of ketones, 2,400 pounds of BTEX compounds, and 300 pounds of chlorinated hydrocarbon compounds over 3 years. Since 1996, the system has treated about 6.2 million gallons of groundwater. The treated groundwater is discharged to the Union Sanitary District's sanitary sewer. The interim groundwater remediation system is controlling the groundwater plume on and off-site.

9. **Feasibility Study:** Remedial alternatives for soil and groundwater were evaluated for technical feasibility and reliability, cleanup time, ability to protect groundwater quality, implementability, and construction and operation and maintenance cost.

Soil - SVE was recommended for final soil remedial action after evaluating the following six alternatives: (1). no action, (2). soil excavation and disposal, (3). soil aeration, (4). soil vapor extraction, (5). in-situ bioremediation and (6). low temperature thermal volatilization.

Groundwater - Existing groundwater pump and treat system followed by monitored natural attenuation was recommended for final groundwater remedial action. Monitored natural attenuation would be implemented if justified and approved by the Board. The following five final remedial action alternatives were evaluated: (1). existing groundwater treatment system, (2).

existing groundwater treatment system followed by monitored natural attenuation, (3). enhanced on and off site natural attenuation, (4). reactive wall and (5). air sparging.

10. **Cleanup Plan:** Chemcentral submitted a final remedial action plan (RAP) on October 27, 1999, and a RAP addendum on February 22, 2000. The RAP evaluates the remedial investigation, IRMs, and cleanup alternatives, and proposes SVE for final soil remedial action and existing groundwater pump and treat system followed by monitored natural attenuation for final groundwater remedial action. The RAP proposes cleanup standards for groundwater and soil, and evaluates risk to human health.
11. **Risk Assessment:** The shallow water-bearing zones underneath the site are not currently used for domestic supply. The risk assessment section of the RAP determined that ingestion or dermal contact of groundwater were incomplete pathways for on-site receptors under current conditions. Chemcentral based this determination on hydrogeologic conditions and observed migration rates for chemicals. The following pathways were found to be complete: indoor and outdoor vapor inhalation from soil and groundwater, vapor inhalation and dust ingestion from surface soils, and dermal contact and/or ingestion of surface soils. Chemcentral evaluated several scenarios during the risk assessment, but three scenarios are appropriate to the scope of this order. Scenario 1 evaluated current site conditions using most recent maximum groundwater VOC concentrations. Scenario 2 evaluated future conditions assuming no use of shallow groundwater, calculating maximum levels of each constituent that will result in acceptable risk levels in surface soil, subsurface soil and groundwater. Scenario 3 is the same as Scenario 2 but assumes future use of shallow groundwater and evaluates residual risks if VOC concentrations are reduced to MCL levels. Attainment of groundwater cleanup standards will protect human health in the event that shallow groundwater is used for domestic purposes.

Toxicity Classification for Chemicals of Interest: The constituents of concern (COCs) were identified as the constituents with concentrations exceeding their target levels and have been routinely detected in each source media. Target soil concentrations in the source area protective of groundwater resource were calculated by establishing MCLs as the target concentrations in groundwater beneath the site. The COCs for groundwater includes vinyl chloride. The COCs for surface and subsurface soils are BTEX, 1,1-DCA, Tetrachloroethene (PCE), 1,2-Chlorobenzene, cis-1,2-Dichloroethene (cis-1,2-DCE), 1,1,1-Trichloroethane (1,1,1-TCA), Trichloroethene (TCE), 1,1-DCE, and Carbon Tetrachloride. These COCs have been consistently detected above their respective MCLs in shallow groundwater zone beneath the site.

Based on EPA's classification, vinyl chloride is class "A" carcinogen (sufficient human evidence). TCE is class "B2" carcinogens (inferring probable human carcinogen, with inadequate human evidence and sufficient evidence from animal experiments). 1,1-DCE

is class "C" carcinogen (possible human carcinogen, limited evidence of carcinogenicity in animals with inadequate human data). Cis-1,2-DCE and trans-1,2-DCE are non-carcinogens (class "D" or lower).

Exposure Assessment: Under the current use of the site, there appears to be no complete exposure pathways for ingestion and dermal contact of groundwater. The VOCs concentrations in the shallow zone are greater than drinking water standards. This water-bearing zone is currently not being used for drinking water. The deeper aquifer that is used for drinking water has not been impacted by VOCs.

Baseline Risk: The shallow groundwater is not used at this time. There is no complete exposure pathway under the current land use scenario. However, the current BTEX and VOCs concentrations at the site may pose threat to human health if the impacted water-bearing zone is used for domestic use pending final remediation. The risk assessment was evaluated after soil excavation was implemented and groundwater was still being treated. The cleanup goals were calculated based on a cumulative target risk of 1×10^{-5} and a cumulative hazard index (HI) of 1.0. For comparison, the Board considers the following risk to be acceptable at remediation sites: a hazard index of 1.0 or less for non-carcinogens, and a cumulative excess cancer risk of 1×10^{-4} or less for carcinogens.

There still exist VOC concentrations in the shallow water bearing zone, but the VOC vapors do not pose a significant health threat. Chemcentral will implement further remediation in the shallow water-bearing zone.

The current VOC concentrations may pose non-carcinogenic excessive risk if the shallow water-bearing zone is used for domestic purpose. Therefore, institutional constraints are appropriate to limit the on-site exposure. Institutional constraints include a deed restriction that notifies future owners of sub-surface contamination and prohibits the use of the shallow water-bearing zone beneath the site as a source of drinking water until cleanup standards are met, and it also include a cap and prohibits construction of a building in the transit area until soil cleanup levels are achieved.

Post-Remediation Risk: Attainment of cleanup standards will protect human health in the event that shallow groundwater is used for domestic purposes. For the carcinogenic chemicals, the excess cancer risk predicted by this analysis is less than 1×10^{-4} or less than 1 excess cancer cases in a population of 10,000. This cancer risk level lies within the Board's acceptable risk range. Likewise, the total HI for non-carcinogenic compounds was found to be about 1, at or below an acceptable level.

12. **Basis for Cleanup Standards**

- a. **General:** State Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to this discharge and requires attainment of background levels of water quality, or the highest level of water quality which is reasonable if background levels of water quality cannot be restored. Cleanup levels other than background must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in exceedance of applicable water quality objectives. The previously cited cleanup plan provides sufficient rationale that background levels of water quality cannot be restored. This order and its requirements are consistent with Resolution No. 68-16.

State Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304," applies to this discharge. This order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

- b. **Beneficial Uses:** The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20, 1995, and November 13, 1995, respectively. A summary of regulatory provisions is contained in Title 23, California Code of Regulations, Section 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.

Board Resolution No. 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas of high TDS, low yield, or naturally high contaminant levels. Groundwater underlying and adjacent to the site qualifies as a potential source of drinking water.

The Basin Plan designates the following potential beneficial uses of groundwater underlying and adjacent to the site:

- o Municipal and domestic water supply
- o Industrial process water supply
- o Industrial service water supply
- o Agricultural water supply
- o Freshwater replenishment to surface waters

At present, there is no known use of the shallow water-bearing zone underlying the site for the above purposes.

- c. **Basis for Soil Cleanup Standards:** The soil cleanup standards for the site are based on calculation of site specific target levels (chemical concentrations that could be left in soil while concentrations in groundwater is maintained at MCLs beneath the site) that prevent further leaching of VOCs into groundwater. Soil cleanup to this level will result in acceptable residual risk to humans.
 - d. **Basis for Groundwater Cleanup Standards:** The groundwater cleanup standards for the site are based on applicable water quality objectives and are the more stringent of EPA and California primary maximum contaminant levels (MCLs). Cleanup to this level will result in acceptable residual risk to humans.
- 13. **Future Changes to Cleanup Standards:** The goal of this remedial action is to restore the beneficial uses of groundwater underlying and adjacent to the site. Results from other sites suggest that full restoration of beneficial uses to groundwater as a result of active remediation at this site may not be possible. If full restoration of beneficial uses is not technologically nor economically achievable within a reasonable period of time, then the discharger may request modification to the cleanup standards or establishment of a containment zone, a limited groundwater pollution zone where water quality objectives are exceeded. Conversely, if new technical information indicates that cleanup standards can be surpassed, the Board may decide that further cleanup actions should be taken.
 - 14. **Reuse or Disposal of Extracted Groundwater:** Board Resolution No. 88-160 allows discharges of extracted, treated groundwater from site cleanups to surface waters only if it has been demonstrated that neither reclamation nor discharge to the sanitary sewer is technically and economically feasible.
 - 15. **Basis for 13304 Order:** The discharger has caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance.
 - 16. **Cost Recovery:** Pursuant to California Water Code Section 13304, the discharger is hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this order.
 - 17. **CEQA:** This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California

Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.

18. **Notification:** The Board has notified the discharger and all interested agencies and persons of its intent under California Water Code Section 13304 to prescribe site cleanup requirements for the discharge, and has provided them with an opportunity to submit their written comments.
19. **Public Hearing:** The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the discharger (or its agents, successors, or assigns) shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner which will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.
2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of wastes or hazardous substances are prohibited.

B. CLEANUP PLAN AND CLEANUP STANDARDS

1. **Implement Cleanup Plan:** The discharger shall implement the cleanup plan described in finding 10.
2. **Soil Cleanup Standards:** The following cleanup standards shall be met in soil at the site:

Constituents	Standard (mg/kg)	Basis	Constituents	Standard (mg/kg)	Basis
Acetone	1.43E+00	Soil target levels protective of groundwater	Ethylene Dibromide	3.87 E-03	Soil target levels protective of groundwater
Benzene	3.29E-03	„	Methylene Chloride	1.92 E-01	„
Carbon tetrachloride	3.95E-03	„	4-Methyl-2-Pentanone	1.88 E+00	„
1,2-DCB	8.61E-02	„	PCE	6.29 E-02	„
1,4-DCB	1.39E-01	„	1,1,1-TCA	1.36 E+00	„
1,1-DCA	1.44 E-02	„	1,1,2-TCA	8.35 E-02	„
1,2-DCA	1.04 E-03	„	TCE	1.98 E-02	„
cis-1,2-DCE	1.06 E-02	„	Total Xylenes	4.58 E+01	„
1,1-DCE	1.86 E-02	„	Benzidine	2.32 E-05	„

Only chemicals detected at soil concentrations (arithmetic average) greater than their respective target levels were listed.

3. **Groundwater Cleanup Standards:** The following groundwater cleanup standards shall be met in all wells identified in the Self-Monitoring Program:

Constituents	Standard (ug/l)	Basis
Benzene	1	California MCL
Ethylbenzene	680	California MCL
Toluene	100	California Action Level
Total Xylenes	1750	California MCL
1,4-Dichlorobenzene	5	California MCL
1,1-Dichloroethane	5	California MCL
Carbon Tetrachloride	0.5	California MCL
Cis-1,2-Dichloroethylene	6	California MCL
1,2-Dichlorobenzene	130	California Action Level
1,1-Dichloroethylene	6	California MCL

Tetrachloroethene	5	California MCL
1,1,1-Trichloroethane	200	California MCL
Trichloroethylene	5	EPA/California MCL
Trans-1,2-DCE	10	California MCL
Vinyl Chloride	0.5	California MCL

C. TASKS

1. SOIL VAPOR EXTRACTION (SVE) SYSTEM INSTALLATION WORKPLAN

COMPLIANCE DATE: June 1, 2000

Submit a workplan acceptable to the Executive Officer for installation and operation of SVE system based on an evaluation of pilot-scale SVE system testing results and soil investigation findings. The workplan should include soil investigation findings from borings drilled along perimeter of the former USTs area, the Transit area and the southern boundary of the Former Coors Property (see RAP for prior workplan). The workplan should describe all significant implementation steps, and should include an implementation schedule.

2. SVE SYSTEM STARTUP

COMPLIANCE DATE: September 30, 2000

Submit a technical report acceptable to the Executive Officer documenting completion of all necessary work in task 1. The report should include a summary of vadose zone pollution, SVE system design and well locations, derivation of SVE well zone of influence, zone of influence superimposed on soil pollution graphic and vapor extraction and treatment unit design features, and historical shallow groundwater chemistry data for the period prior to SVE system installation.

3. PROPOSED INSTITUTIONAL CONSTRAINTS

COMPLIANCE DATE: July 15, 2000

Submit a technical report acceptable to the Executive Officer documenting procedures to be used by the discharger to prevent or minimize human exposure

to soil and groundwater contamination prior to meeting cleanup standards. Such procedures shall include a deed restriction prohibiting 1) the use of shallow groundwater as a source of drinking water, and 2) construction of a building in the Transit area until soil cleanup levels are achieved.

4. **IMPLEMENTATION OF INSTITUTIONAL CONSTRAINTS**

COMPLIANCE DATE: 60 days after Executive Officer approval

Submit a technical report acceptable to the Executive Officer documenting that the proposed institutional constraints have been implemented.

5. **FIVE-YEAR STATUS REPORT**

COMPLIANCE DATE: June 15, 2005

Submit a technical report acceptable to the Executive Officer evaluating the effectiveness of the approved cleanup plan. The report should include:

- a. Summary of effectiveness in controlling contaminant migration and protecting human health and the environment
- b. Comparison of contaminant concentration trends with cleanup standards
- c. Comparison of anticipated versus actual costs of cleanup activities
- d. Performance data (e.g. chemical concentrations and volume extracted in soil and groundwater, chemical mass removed, mass removed per million gallons extracted)
- e. Cost effectiveness data (e.g., cost per pound of contaminant removed)
- f. Summary of additional investigations (including results) and significant modifications to remediation systems
- g. Additional remedial actions proposed to meet cleanup standards (if applicable) including time schedule

If cleanup standards have not been met and are not projected to be met within a reasonable time, the report should assess the technical practicability of meeting cleanup standards and may propose an alternative cleanup strategy.

6. **ADDITIONAL LOWER SHALLOW WATER BEARING ZONE INVESTIGATION WORKPLAN**

COMPLIANCE DATE: 60 days after requested by Executive Officer

Submit a workplan acceptable to the Executive Officer to define the vertical and lateral extent of groundwater pollution of the lower shallow water-bearing zone if a significant increase in VOC concentrations occurs at wells located in the lower shallow water-bearing zone. The workplan should include installation of monitoring well(s) between the site and the US Pipe and Foundry property. The workplan should specify investigation methods and a proposed time schedule. Work may be phased to allow investigation to proceed efficiently.

7. ADDITIONAL LOWER SHALLOW WATER BEARING ZONE

COMPLIANCE DATE: Deadline in the approved
Task 5 workplan

Submit a technical report acceptable to the Executive Officer documenting completion of necessary tasks identified in the Task 5 workplan and, if necessary, proposing additional remedial actions.

8. PROPOSED CURTAILMENT

COMPLIANCE DATE: 60 days prior to proposed curtailment

Submit a technical report acceptable to the Executive Officer containing a proposal to curtail remediation. Curtailment includes system closure (e.g., well abandonment), system suspension (e.g., cease extraction but wells retained), and significant system modification (e.g., major reduction in extraction rates, closure of individual extraction wells within extraction network). The report should include the rationale for curtailment. Proposals for final closure should demonstrate that cleanup standards have been met, contaminant concentrations are stable, and contaminant migration potential is minimal. The proposal shall include a schedule for implementation.

With respect to curtailment of groundwater extraction and treatment, the report should include natural attenuation fate and transport modeling and a natural attenuation performance monitoring plan. The report should include a contingency plan to be implemented if monitoring shows that natural attenuation is not reducing chemical concentrations in groundwater as projected.

With respect to curtailment of the SVE system, the report may include a proposal for a less stringent soil target levels for Regional Board's approval. Any such proposal should include a demonstration that the SVE system has been designed and applied to its maximum capability and that existing soil target levels cannot be met.

9. **IMPLEMENTATION OF CURTAILMENT**

COMPLIANCE DATE: 60 days after Executive Officer approval

Submit a technical report acceptable to the Executive Officer documenting completion of the tasks identified in Task 8.

10. **EVALUATION OF NEW HEALTH CRITERIA**

COMPLIANCE DATE: 90 days after requested
by Executive Officer

Submit a technical report acceptable to the Executive Officer evaluating the effect on the approved cleanup plan of revising one or more cleanup standards in response to revision of drinking water standards, maximum contaminant levels, or other health-based criteria.

11. **EVALUATION OF NEW TECHNICAL INFORMATION**

COMPLIANCE DATE: 90 days after requested
by Executive Officer

Submit a technical report acceptable to the Executive Officer evaluating new technical information, which bears on the approved cleanup plan and cleanup standards for this site. In the case of a new cleanup technology, the report should evaluate the technology using the same criteria used in the feasibility study. Such technical reports shall not be requested unless the Executive Officer determines that the new information is reasonably likely to warrant a revision in the approved cleanup plan or cleanup standards.

12. **Delayed Compliance:** If the discharger is delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the discharger shall promptly notify the Executive Officer and the Board may consider revision to this Order.

D. PROVISIONS

1. **No Nuisance:** The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in California Water Code Section 13050(m).
2. **Good O&M:** The discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.
3. **Cost Recovery:** The discharger shall be liable, pursuant to California Water Code Section 13304, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the site addressed by this Order is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the discharger over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.
4. **Access to Site and Records:** In accordance with California Water Code Section 13267(c), the discharger shall permit the Board or its authorized representative:
 - a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
 - b. Access to copy any records required to be kept under the requirements of this Order.
 - c. Inspection of any monitoring or remediation facilities installed in response to this Order.
 - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.
5. **Self-Monitoring Program:** The discharger shall comply with the Self-Monitoring Program as attached to this Order and as may be amended by the Executive Officer.

6. **Contractor/Consultant Qualifications:** All technical documents shall be signed by and stamped with the seal of a California registered geologist, a California certified engineering geologist, or a California registered civil engineer.
7. **Lab Qualifications:** All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control (QA/QC) records for Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g., temperature, dissolved oxygen, redox potential, conductivity etc.).
8. **Document Distribution:** Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies:
 - a. Hayward Fire Department
 - b. Alameda County Water District

The Executive Officer may modify this distribution list as needed.

9. **Reporting of Changed Owner or Operator:** The discharger shall file a technical report on any changes in site occupancy or ownership associated with the property described in this Order.
10. **Reporting of Hazardous Substance Release:** If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the discharger shall report such discharge to the Regional Board by calling (510) 622-2300 during regular office hours (Monday through Friday, 8:00 to 5:00).

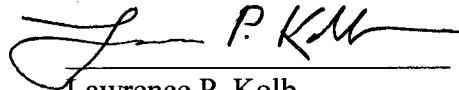
A written report shall be filed with the Board within five working days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.

This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

11. **Rescission of Existing Order:** This Order supersedes and rescinds Order No. 96-101.

12. **Periodic SCR Review:** The Board will review this Order periodically and may revise it when necessary.

I, Lawrence P. Kolb, Acting Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on April 19, 2000.



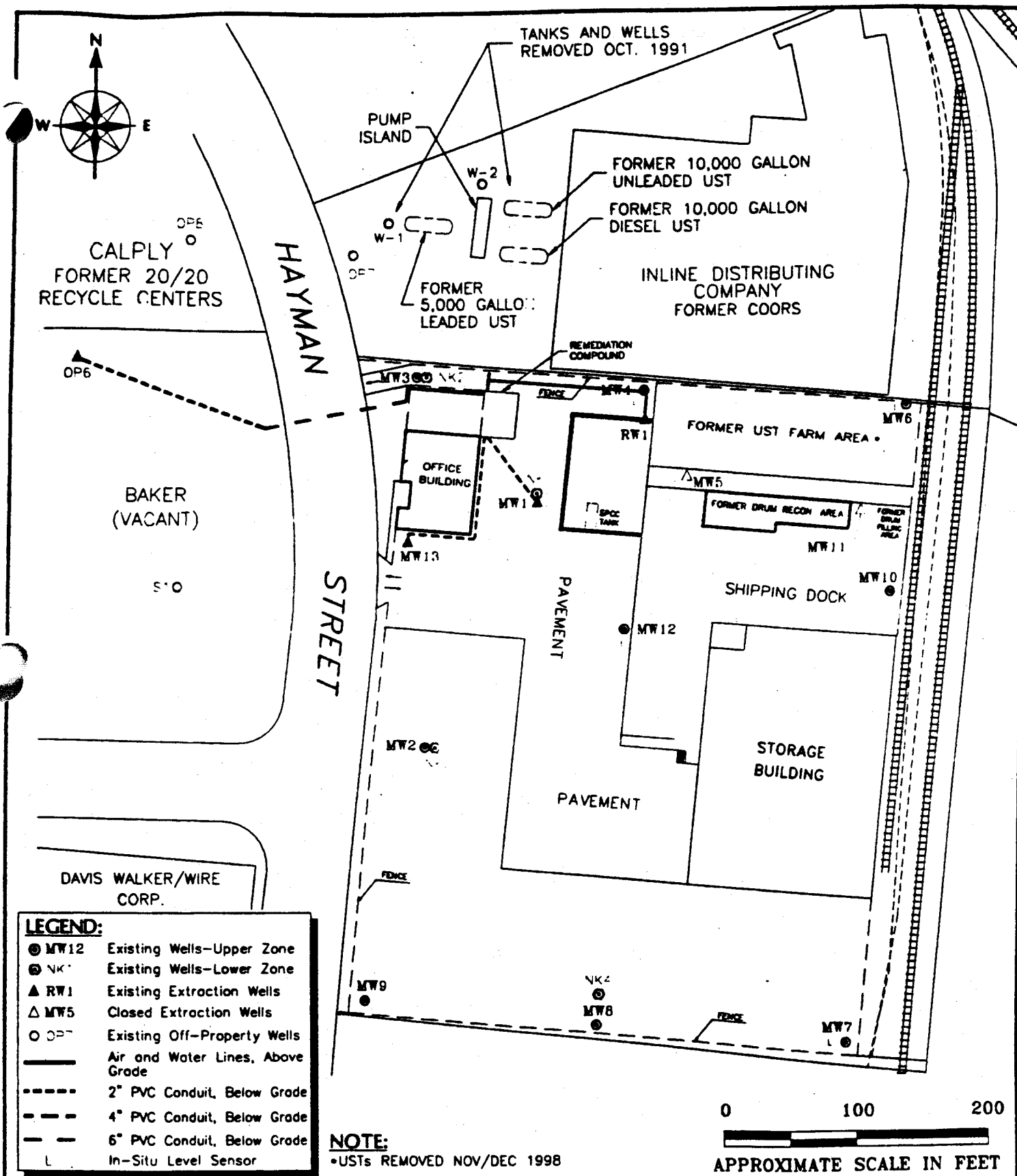
Lawrence P. Kolb
Acting Executive Officer

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FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS ORDER MAY SUBJECT YOU TO ENFORCEMENT ACTION, INCLUDING BUT NOT LIMITED TO: IMPOSITION OF ADMINISTRATIVE CIVIL LIABILITY UNDER WATER CODE SECTIONS 13268 OR 13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR INJUNCTIVE RELIEF OR CIVIL OR CRIMINAL LIABILITY

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Attachments: Site Map
Self-Monitoring Program



ENVIOPRO, Inc.

Comprehensive Environmental Services & Technology

DRAWN BY: CB

DATE: 3/99

PROJECT NO.:
E0228020

FILE NAME:
HAY-14A.DWG

CHEMCENTRAL CORPORATION

31702 HAYMAN STREET, HAYWARD, CA

**FACILITY PLOT PLAN AND
GROUNDWATER WELL LAYOUT**

FIGURE

3-2

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR:

CHEMCENTRAL CORPORATION

for the property located at

31702 HAYMAN STREET
HAYWARD
ALAMEDA COUNTY

1. **Authority and Purpose:** The Board requests the technical reports required in this Self-Monitoring Program pursuant to Water Code Sections 13267 and 13304. This Self-Monitoring Program is intended to document compliance with site cleanup requirements Order No. 00-32.
2. **Monitoring:** The discharger shall measure groundwater elevations quarterly in all monitoring wells, and shall collect and analyze representative samples of groundwater according to the following table:

Well #	Sampling Frequency	Analyses	Well #	Sampling Frequency	Analyses
MW1	SA	8260	MW10	SA	8260
MW2	SA	8260	MW12	SA	8260
MW3	SA	8260	MW13	SA	8260
MW4	SA	8260	NK1	SA	8260
MW6	SA	8260	NK2	SA	8260
MW8	SA	8260	NK3	SA	8260
MW9	SA	8260	NK4	SA	8260
OP1	SA	8260	OP7	SA	8260
OP2	SA	8260	OP8	SA	8260
OP5	SA	8260	S1	SA	8260
OP6	SA	8260	S2	SA	8260

MW14	SA	8260	S3	SA	8260
MW15	SA	8260	4S/2W-11A3 **	A	8260

Key: SA = Semi-Annually, A=Annual, 8260 = EPA Method 8260 or equivalent
On-site wells: MW1, MW2, MW3, MW4, MW6, MW8, MW9, MW10, MW12, MW13, NK1, NK2, NK3, NK4, MW14 and MW15

Off-site wells: OP1, OP2, OP5, OP6, OP7, OP8, S1, S2, S3 and 4S/2W-11A3.

** : If an annual certification cannot be obtained that well 4S/2W-11A3 is not used for domestic purpose then monitoring will be required.

If well 4S/2W-11A3 is inaccessible, the discharger shall submit a workplan for installation of an equivalent well or wells as part of the quarterly report. The workplan should indicate proposed well location, design and installation schedule. The well(s) should monitor the same water-bearing zone as 4S/2W-11A3.

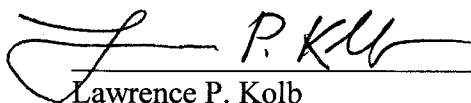
The discharger shall sample any new monitoring or extraction wells quarterly and analyze groundwater samples for the same constituents as shown in the above table. The discharger may propose changes in the above table; any proposed changes are subject to Executive Officer approval.

3. **Quarterly Monitoring Reports:** The discharger shall submit quarterly monitoring reports pending SVE operation, to the Board no later than 30 days following the end of the quarter (i.e., report for September through December period due January 31). The first quarterly monitoring report shall be due on July 31, 2000. The discharger may submit semi-annual monitoring reports following SVE system start-up. The reports shall include:
 - a. **Transmittal Letter:** The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall be signed by the discharger's principal executive officer or his/her duly authorized representative, and shall include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.
 - b. **Groundwater Elevations:** Groundwater elevation data shall be presented in tabular form, and a groundwater elevation map should be prepared for each monitored water-bearing zone. Historical groundwater elevations shall be included in the second semi-annual monitoring report each year.

- c. **Groundwater Analyses:** Groundwater sampling data shall be presented in tabular form, and an isoconcentration map should be prepared for one or more key contaminants for each monitored water-bearing zone, as appropriate. The report shall indicate the analytical method used, detection limits obtained for each reported constituent, and a summary of QA/QC data. Historical groundwater sampling results shall be included in the second semi-annual monitoring report each year. The report shall describe any significant increases in contaminant concentrations since the last report, and any measures proposed to address the increases. Supporting data, such as lab data sheets, need not be included (however, see record keeping - below).
 - d. **Groundwater Extraction:** If applicable, the report shall include groundwater extraction results in tabular form, for each extraction well and for the site as a whole, expressed in gallons per minute and total groundwater volume for the quarter. The report shall also include contaminant removal results, from groundwater extraction wells and from other remediation systems (e.g., soil vapor extraction), expressed in units of chemical mass per day and mass for the quarter. Historical mass removal results shall be included in the second semi-annual monitoring report each year.
 - e. **SVE System:** The report should include a summary of SVE system operation including periods and modes of operation, mass removal, and any other relevant information.
 - f. **Existing Supply Wells:** Once each calendar year, the report should include a discussion of existing supply wells in the vicinity, including the ACWD Whipple well and the US Pipe and Foundry industrial supply well (4S/2W-11A3). The letter should if possible include a certification from US Pipe and Foundry that its well is not being used for domestic purposes.
 - g. **Status Report:** The report shall describe relevant work completed during the reporting period (e.g., site investigation, interim remedial measures) and work planned for the following semi-annual reporting period.
4. **Violation Reports:** If the discharger violates requirements in the Site Cleanup Requirements, then the discharger shall notify the Board office by telephone as soon as practicable once the discharger has knowledge of the violation. Board staff may, depending on violation severity, require the discharger to submit a separate technical report on the violation within five working days of telephone notification.

5. **Other Reports:** The discharger shall notify the Board in writing prior to any site activities, such as construction or underground tank removal, which have the potential to cause further migration of contaminants or which would provide new opportunities for site investigation.
6. **Record Keeping:** The discharger or his/her agent shall retain data generated for the above reports, including lab results and QA/QC data, for a minimum of six years after origination and shall make them available to the Board upon request.
7. **SMP Revisions:** Revisions to the Self-Monitoring Program may be ordered by the Executive Officer, either on his/her own initiative or at the request of the discharger. Prior to making SMP revisions, the Executive Officer will consider the burden, including costs, of associated self-monitoring reports relative to the benefits to be obtained from these reports.

I, Lawrence P. Kolb, Acting Executive Officer, hereby certify that this Self-Monitoring Program was adopted by the Board on April 19, 2000.



Lawrence P. Kolb
Acting Executive Officer